

# Airpower in Modern War

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American leaders and Western democratic governments in general have indisputably used airpower as the “go to” means to employ the military instrument of national power. Most conventional military actions since 1991 have begun with, or were entirely comprised of, airpower campaigns—at least on the friendly side. Given a 24-hour news cycle and an atrocity-hungry culture feeding multimedia misery to a craving public, one has to wonder if American airpower can still be effective.

This article asserts that we can use airpower proficiently in contemporary risk- and casualty-averse conflicts but that we must first understand the broad evolution and maturation of airpower theory as well as the state of the strategic environment in which we operate today. America needs further sensible investment in both people and equipment. To create successful strategies for tomorrow, we need to incorporate lessons learned from today’s controversial conflicts.

This article examines the history of airpower and predominant airpower theories from the perspective of the contemporary strategic environment characterized by a 24-hour media cycle and high sensitivity to casualties. In light of recent conflicts, the article attempts to answer the question “So what?” regarding our likely strategy versus our adversary’s. It introduces a mechanism called the “atrocity threshold” to assist in analyzing a conflict situation for future strategy development. Finally, the article offers recommendations for future airpower strategies.

## A Century of Airpower Thinking

Since publication of Giulio Douhet’s book *The Command of the Air*, airpower advocates have struggled to assert the strategy behind exploitation of the medium of flight to achieve national interests, and an elite cadre of warrior-scholars has promoted new uses of airpower to realize national ends.<sup>1</sup> In World War I, airpower demonstrated that it had greater potential for warfare in the air than merely artillery spotting. Douhet and Billy Mitchell argued that airpower could prevent wars of attrition—killing one another piecemeal. They believed that air warfare could reduce casualties and spare nations from wars of annihilation. The will of the enemy became the new target; toward that end, directly attacking civilians seemed the mechanism of choice. Of course, technology was a key factor leading the theorists to consider bombing cities—the new heavier-than-air aircraft represented cutting-edge technology; targeting and bombing were recent inventions and hardly precise. Early theorists flirted with the use of chemical warfare and bombardment of cities,

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principally to affect morale and will. Moreover, they suggested that “command of the air,” what we now call air dominance, was not only possible but necessary to enjoy success on future battlefields.<sup>2</sup>

During the period between the two world wars, airpower technology grew in starts and stops. Western democracies experimented with different organizational structures to control airpower. Great thinkers at Maxwell Field, Alabama, built on Mitchell’s ideas during the later interwar years, devising a new and practical airpower concept: the industrial web theory.<sup>3</sup> Though debates among students and faculty at Maxwell’s Air Corps Tactical School could be tactical in nature, their strategic underpinnings differed significantly from the US Army’s concern with small wars.<sup>4</sup>

Industrial web theory was a key component that made airpower advocates in the interwar years quite different from their Army counterparts. The concept of attacking the enemy’s capacity to fight went beyond close observation or direct support of ground troops. This truly new idea espoused using aviation to strike critical points deep inside the enemy’s territory and thus collapse his resistance. This theory supplanted attacking an adversary’s will by supporting systemic paralysis through the pragmatic removal of his ability to fight.

American airpower in World War II served many practical roles, including interdiction of supply lines and air support to Allied ground forces as well as air superiority, escort, intelligence, resupply, and delivery of troops and supplies. Approaches taken by the British and the American bomber fleets in the European theater demonstrated the difference between attacking the morale of the enemy populace and decimating his ability to make war. On the one hand, the British chose night saturation bombardment, burning down Nazi cities and urban military targets in an effort to impair the Germans’ will and to influence their ability to fight—though the accuracy of their bombardment techniques made counterforce a rationalization. The Americans, on the other hand, chose daylight precision bombardment although it was a nascent capability at the time, and such flights over heavily guarded Nazi factories and industries posed a far greater threat to the aircrews than the British night approach. The Norden bombsight, B-17s, and B-25s enabled strategic bombardment in accordance with industrial web theory. Precision was certainly a relative term at the time, and even the American daylight approach involved punishing communities around targeted sites.

The Air Corps experimented with tactics and technology in both theaters. In Europe the Air Corps learned that drop tanks and long-range fighter escort of bombers throughout the bombing mission reduced losses to German fighters. In the East, after Gen Jimmy Doolittle’s raid on Japan, the Army Air Corps escalated to firebombing Japanese cities. The campaign culminated with the dropping of the Little Boy and Fat Man atomic bombs, horrific weapons that made an invasion unnecessary by breaking the Japanese will and bringing World War II to a close. Although Hiroshima and Nagasaki included military-industrial targets, the message sent to and received by the Japanese was that America could annihilate them completely. The B-29 and the early atomic bombs verified Mitchell’s prescient anticipation of total war and the use of airpower to end it.

The impact of airpower in World War II together with the rise of the Soviet menace gave weight to those leaders who promoted an independent, full-time Air Force. In 1947, the Air Force did in fact win its independence. The new service faced its first substantial test during the Korean War—the last time American forces fought without air superiority, which freed allied forces from attack from the air by controlling the airspace above them. Jet technology and more accurate weapons-delivery systems improved the effectiveness of airpower. In Korea and, later, Vietnam, airpower—other than the strategic bomber force—substantially followed Army dogma: provide interdiction and direct battlefield air support of ground forces. As the Cold War settled in, strategic bombardment mutated to the employment of nuclear weapons with bombers on alert and, later, missiles to carry those weapons.

The Korean War saw new technology, including jet combat and a tremendously high American kill ratio. Budget battles between the service chiefs grew heated during this time, the Air Force and its atomic bomber fleet now competing for limited dollars with the Army and Navy. Historians noted that “although President Truman’s approval was only ‘tentative,’ the Secretary of Defense had decreed that one service—the Air Force—should get well over one-third of future defense budgets.”<sup>5</sup> From 1956 on, Strategic Air Command maintained roughly one-third of its strategic bomber force on alert, prepared to respond if the Soviet Union launched a “first strike.”<sup>6</sup> The Air Force refined its aerial-refueling technology, extending the bombers’ range and making them a formidable, global Cold War nuclear deterrent.

During the Vietnam War, although the principal daily use of airpower resembled its employment in Korea and World War II, the line between strategic and tactical air forces began to blur. The September 1970 edition of Air Force Manual 11-1, *United States Air Force Glossary of Standardized Terms*, channeled the interwar Air Corps Tactical School in its definition of strategic air warfare:

Air combat and support operations, designed to effect, through the systematic application of force to a selected series of vital targets, the progressive destruction and disintegration of the enemy’s war-making capacity to a point where he no longer retains the ability or will to wage war. Vital targets may include key manufacturing systems, sources of raw material, critical material, stockpiles, power systems, transportation systems, communication facilities, concentrations of uncommitted elements of enemy armed forces, key agricultural areas, and other such target systems.<sup>7</sup>

By the late Cold War, AirLand Battle had come to dominate airpower strategy. Essentially, the concept suggested that airpower supplemented the Army’s fight against the Soviets at the Fulda Gap.<sup>8</sup> According to US Army Field Manual 100-5, *Operations*, 1986,

The design intent is for a numerically inferior force to be able to use its superior battlefield vision . . . to direct a massive interdiction effort. . . . These strikes would complement the main battle area commander’s intent of using his more concentrated and synchronized firepower at the critical place and time against the enemy by limiting the quantitative advantage that enemy would enjoy.<sup>9</sup>

When the Soviet Union collapsed in 1991, the Cold War receded from America’s collective consciousness, and some members of Congress felt that a “peace dividend” justified shrinking the American armed forces. Strategic Air Command and Tactical Air Command merged into Air Combat Command although few people

understood what that action portended. The Air Force's first strategic plan for a post-Cold War conflict was a product of the times: avoiding casualties, feeding a 24-hour news cycle, and using coercion to reach national goals. However, in this case, the chief national instrument of power was joint airpower supported by a large combined and joint surface force. The plan recognized the synergy of new technology, particularly precision weapons and long-range airpower projection, as well as the ability to attack fleeting, time-sensitive targets. In Operation Desert Storm, airpower brought down the fourth-largest military in the world through a six-week aerial-bombardment campaign followed by a 100-hour mop-up ground campaign with an astoundingly low casualty rate among coalition members.

Airpower revisited familiar roles in Desert Storm, but it departed from the past reliance on supporting a ground force. Bombardment of a number of strategic and battlefield targets in Operation Instant Thunder, the politically driven "Scud hunt," and a tremendously effective battlefield air interdiction effort called "tank plinking" set the conditions for a quick rout of the Iraqi military. They also led to a successful 12-year—mostly silent—air occupation of Iraq that contained the aggressive aspirations of Saddam Hussein until the overthrow of his regime during Operation Iraqi Freedom in 2003.<sup>10</sup> Desert Storm demonstrated new technology and thinking about the use of airpower in battle wherein ground forces supported air rather than vice versa.

Between the first and second Gulf wars, America used airpower to occupy terrain in enforcement of United Nations sanctions against Iraq. When a provocation occurred, the coalition—mostly America and Britain—responded with a token demonstration of force or a counterpunch—sometimes via cruise missiles, sometimes via fixed-wing aircraft. In 1999, in response to Iraqi provocations such as antiaircraft artillery firing on coalition fighters, Joint Task Force Operation Northern Watch, led by then-brigadier general Dave Deptula, changed strategy. Instead of tit-for-tat counterpunches limited to offending sites, his planners designed air strikes to target any element of the Iraqi air defense system when Iraq threatened any hostile action—not just the offending Iraqi military position. This procedure reduced the tit-for-tat provocations by increasing the enemy's uncertainty. Operation Southern Watch followed a similar doctrine under Gen Hal Hornburg, enforcing an aerial occupation with precision strikes and thus driving up the cost for Iraqi recalcitrance.

Adversary leaders learned from Northern and Southern watch, particularly Slobodan Milošević, the Serbian president who caused considerable destruction and enabled mass atrocities not seen in Europe since World War II. Concomitant with the aerial occupation of Iraq in the 1990s, Milošević became a key European actor responsible for widespread death and dislocation as well as North Atlantic Treaty Organization (NATO) reaction and airpower intervention. In 1995 NATO allies responded to provocation with Operation Deliberate Force.<sup>11</sup> Milošević and local Bosnian-Serb strongmen used civilians as human shields to protect military targets, a tactic that hamstrung the allies to some extent. The end state in Bosnia was a dramatic population shift that separated ethnic people who had lived together with minimal conflict under Josip Broz Tito when the area was known as Yugoslavia. As one Deliberate Force researcher noted, "The lesson of that conflict is that . . . strategic success in peace enforcement operations depends on the imposition of humanitarian constraints upon military operations."<sup>12</sup>

In 1999 the Balkans ignited again, and NATO responded with Operation Allied Force, which proved that airpower alone could win a major international conflict—doing so decisively after a three-month air campaign across Serbia and Kosovo. Although Desert Storm had demonstrated airpower's ability to crush an enemy's military and his ability to fight, Allied Force effectively sapped Serbian president Milošević's will to continue.<sup>13</sup> A combined air operation similar to Desert Storm although less intense, Allied Force saw fewer strike missions but more stealth and precision employed in a coercive campaign to force Milošević to withdraw from Kosovo. Unfortunately, this coercion occurred after the Serbian ethnic cleansing campaign had significantly affected the Kosovar populace. Even with the successful debut of the B-2 bomber, using airpower to coerce a recalcitrant adversary proved an imprecise art.

During this second interwar period of no-fly zones in Iraq and air war over the Balkans, airpower theory—aided by technological improvements—leaped ahead. In his seminal monograph *Effects-Based Operations: Change in the Nature of Warfare*, Deptula suggested that precision and speed create mass of their own. Airpower could now help “control” an adversary instead of simply destroy fielded forces or support an army:

The first night of the Gulf War air campaign demonstrated that the conduct of war had changed. One hundred fifty-two discrete targets—plus regular Iraqi Army forces and SAM [surface-to-air missile] sites—made up the master attack plan for the opening 24-hour period of the Gulf air war. The Gulf War began with more targets in one day's attack plan than the total number of targets hit by the entire Eighth Air Force in all of 1942 and 1943—more separate target air attacks in 24 hours than ever before in the history of warfare.<sup>14</sup>

Deptula fostered the most significant change in the conduct of aerial warfare since Billy Mitchell. Just as they had opposed Mitchell, surface-force traditionalists fought Deptula's new ideas. His effects-based operations led to time-critical targeting—a methodical, deliberate form of “compellence”: “Well beyond the activity of destroying an opposing force lies the ultimate purpose of war—to compel a positive political outcome.”<sup>15</sup> Indeed, Deptula's framework influenced the successful air campaigns in Operations Allied Force, Iraqi Freedom, and Enduring Freedom. Today, joint targeting cells and Air Force doctrine reflect Deptula's theory of airpower and the changing nature of warfare.

After the terrorist attacks of 11 September 2001, airpower again was the instrument of national choice during Enduring Freedom in Afghanistan. That operation built upon the increased stature enjoyed by the US Air Force after the successful Allied Force endeavor over Serbia and Kosovo in European Command's theater. The Afghanistan operation sought “to overthrow the Taliban government of Afghanistan that was providing a safe haven for al Qaeda and its leader, Osama bin Laden, and in the process hopefully eliminate al Qaeda itself.”<sup>16</sup> Over Afghanistan, airpower proved decisive when paired with ground controllers. This war saw the unlikely juxtaposition of Air Force combat controllers, embedded in Army special forces ground teams, riding on horses and using handheld Global Positioning System locators and radios to call in air strikes.<sup>17</sup> Destruction of time-critical targets proved devastating to the Taliban, again demonstrating American reliance on conducting operations while assured of overwhelming mastery of the air.

In 2003 the George W. Bush administration opened another front in the global war on terror. Iraqi Freedom was a relatively conventional application of airpower that supported a surface battle of maneuver. Yet, when the Army stalled because of a severe three-day sandstorm, aircraft continued to pound strategic and tactical targets day and night. The Public Broadcasting Service reported that on 25 March, “five days into the invasion, the American advance on Baghdad stalls. Back in Washington, retired generals have been appearing on television and commenting that the war is not going as well as it should because there are not enough combat forces on the ground.”<sup>18</sup>

When the weather broke, the US Army’s 173rd Airborne Brigade landed in northern Iraq to work with Kurdish forces, “calling in air strikes when Iraqi forces try to move forward.”<sup>19</sup> When American forces entered Baghdad on 5 April 2003, they “encounter[ed] morning traffic and many Iraqi defenders . . . dressed in civilian clothes.”<sup>20</sup>

Notably, when asked about civilian deaths during the war, military historian Frederick Kagan responded that

When you’re talking about civilian casualties in war, it’s very important to understand that there will always be civilian casualties in war.

The U.S military took extraordinary pains to avoid civilian casualties in a campaign in which an incredible amount of ordinance [sic] was dropped all across a country, including in extremely densely inhabited areas. Overall, America’s success in avoiding large numbers of civilian casualties was astonishing.

The problem is we’re living in a world where the expected rate of success is 100 percent. We count up from zero how many civilian casualties there are, and every one is unacceptable. . . . In war, reality doesn’t actually work that way.<sup>21</sup>

As US forces redeployed from Iraq and as part of the disastrous Arab Spring series of Arabian populist and often fundamentalist revolutions occurred in 2011, NATO intervened in Libya’s civil war, using airpower alone to protect and support local opposition forces on the ground. The intervention, the American part of which was known as Operation Odyssey Dawn, was a success “in several important respects.” Specifically, it helped topple Mu’ammar Gadhafi’s regime without requiring “the deployment of [allied] ground forces, with very low levels of collateral damage, and no NATO casualties. . . . The cumulative attrition effect of precision airpower enabled a rebel victory on the ground.”<sup>22</sup>

Although the Libyan campaign succeeded in removing Gadhafi, neither NATO nor the United States effectively fostered a workable follow-on government. In 2014 the Syrian civil war led to creation of the self-appointed Islamic State (ISIS), which took control of wide swaths of Syria and Iraq in a reign of terror unseen since the Rwandan genocide or the atrocities of Pol Pot and Hitler. Unstable conditions and the absence of a strong central government allowed ISIS to establish a franchise in Libya.<sup>23</sup> Moreover, Boko Haram in Nigeria has now aligned itself with ISIS.<sup>24</sup> Meanwhile, al-Qaeda, at least in part, has merged with the Islamic State. In Yemen, al-Qaeda overtook the formerly friendly government. Iran is actively supporting the Shia militias in Iraq and Yemen in addition to Hezbollah and Hamas, worldwide terrorist organizations, while simultaneously pursuing nuclear weapons. One might observe

that the United States won its recent post-Cold War battles but has not yet won the peace.

## The Influence of Collateral Damage and the Perception of Risk on Strategy

In a democracy such as ours, the ability to fight depends upon the will of both the people and civilian leaders. Deliberate Force, Bosnia in 1995, and Enduring Freedom, as well as the 2009 and 2014 Israeli Gaza operations, demonstrated clearly that at some points, national will can balance upon collateral damage—principally when using airpower as the lowest-risk application of the military instrument. Enemies have blatantly used civilians as human shields, including families and children, in an attempt to affect the will of the democratic populace and leaders, deterring them from acting. Gaza in 2014 differed from Bosnia in 1995 in terms of existential risk. America itself was not fundamentally at risk in Deliberate Force, so human shields proved an effective deterrent. In Gaza, using human shields, placing rockets in United Nations schools, and launching rockets from inside densely populated residential areas failed to inhibit the Israelis because, by putting the entire population of Israel at risk from more than 3,000 rockets launched at population centers, Hamas only made the Israeli population more determined to act.<sup>25</sup>

Gaza offers a good example of the use of a modern poor man's air force or airpower. Third world countries or terrorist groups can employ unguided rockets, missiles, and perhaps even inexpensive drones because fighter or bomber aircraft are just too complex and expensive to operate. With these imprecise terror weapons, they may produce effects similar to those of traditional manned airborne platforms at a fraction of the cost.

By the time Desert Storm began in 1991, the Iraqi air defense system was formidable, and its surface-to-air missiles and Scuds provided the type of poorly guided, cheap airpower that the United States is reticent to use for fear of inflicting collateral damage. The American Patriot missile defense system and the Israeli Iron Dome, as well as the several strategic antiballistic missile systems funded by the Missile Defense Agency, are purely defensive means of countering similar threats. In an attempt to reduce unnecessary casualties, Western democracies refuse to use unguided ballistic missiles as offensive airpower as did Germany in World War II and Iraq, Hamas, and Hezbollah, armed by Iran, more recently.

## Phenomenon of the “Atrocity Threshold”

An important mechanism, referred to here as the atrocity threshold, affects the conceptualization, planning, and conduct of postmodern military operations. The will of both the public and elected leadership is influenced by the number and type of casualties, depending upon a number of factors, including whether or not the casualties are civilian, children or adults, women or men, and documented by the media. Location of the conflict and its relationship to American national interests are also factors.



Faced with a recalcitrant threat to national interests, democratic leaders—with tacit agreement by the democratic populace—will first attempt to use the diplomatic and then the economic instruments of national power. If those fail to achieve the desired results—as they did with Hitler in the 1930s, communist regimes in Korea and Vietnam in the 1950s and 1960s–70s, Saddam in 1991 and 2003, Milošević in 1999, the Taliban in 2001, Libya in 2011, and the Islamic State in 2014—America can resort to the military instrument.

Typically, building a coalition is the first step—sometimes the only step—although it may occur concurrently with the use of diplomacy and economic sanctions. With some degree of multinational support, our next move is to employ airpower, which may be either land- or sea-based. However, to conduct surge operations for more than three days, America requires a full-time Air Force with land-based airpower. With or without the deployment of ground forces, we enter a softening phase, which can prove decisive in toppling an adversary's government, as in Serbia, Afghanistan, and Libya, or a prelude to a ground phase for stability or transition to peace operations, as in Afghanistan or Iraq.

Yet, our modern calculus stumbles, for we tend to use the same formula repeatedly without consciously considering the mechanism at play. Specifically, when the number and type of atrocities reach a certain level, popular opinion can compel democratically elected leaders to take or cease military action. During the Libyan civil war, America and some European partners employed airpower almost exclusively to tilt the balance to the side that desired to remove Gadhafi.<sup>26</sup> The casualties primarily occurred in a closed country, and few media outlets were on the ground to fill the 24-hour news cycle. Few Western casualties, low interest, and the use of only airpower made for limited media, no boots on the ground, few atrocities, and low popular democratic interest. Conversely, two years of civil war in Syria, media documentation, solid evidence of the use of chemical weapons against civilians, hundreds of thousands of civilians killed, and millions of people displaced combined with war weariness and domestic economic troubles to invoke outrage—although it proved insufficient to force America to commit in force.

In Gaza, when the Israelis faced thousands of rockets raining down on their cities, they rapidly moved from airpower coercion to the brute-force compellence of ground forces. It is noteworthy that the losses in combat in Gaza were less than 1 in 100 (roughly 2,000 dead, as controversially reported by Palestinian sources).<sup>27</sup> Casualties in the Syrian civil war amounted to over 200,000 dead (according to third-party reporting).<sup>28</sup> During the Gaza campaign, however, the media focused disproportionately on Israel.

The threat of rockets and tunnel-bound terrorists indiscriminately attacking Israeli civilians influenced Israel's atrocity threshold, reminiscent of the initial phases of Enduring Freedom when President Bush enjoyed popular support for his successful airpower-centered campaign in Afghanistan.<sup>29</sup> Humanitarian considerations remained important throughout Enduring Freedom. Later, however, as the operation dragged on, reports of civilian casualties caused by air attacks in Afghanistan slowly shaped the reduction in the coalition's use of airpower despite the fact that collateral damage was minimal compared to that of historic campaigns.<sup>30</sup>

Today we face the Islamic State's terrorist-led, terror-enforced occupation of a significant swath of the Fertile Crescent. More brutal than the members of Hamas, these Sunni Muslim terrorists expanded from Syria into Iraq. ISIS has routinely tortured and killed Syrian and Peshmerga military prisoners and brutally murdered and beheaded Western journalists, care workers, and others, uploading slick, professionally produced videos of the killings online. After numerous reports of mass atrocities by the Islamist terrorists, the United States committed to a small-scale coalition air campaign—Operation Inherent Resolve—principally aimed to degrade or destroy the Islamic State.<sup>31</sup> After half a year of dropping munitions on ISIS targets, the cumulative sortie rate is less than that of the first week flown during Desert Storm.<sup>32</sup>

Although our action against ISIS may grow, in the better part of a year there has been little public will to engage militarily beyond airpower and a quite limited ground support force. This attitude will not change unless the engagement is either low risk or the administration makes a stronger case that it is in the best interest of America to battle the terrorist state on its own territory instead of ours.

## So What?

Will the United States see tactics from future adversaries similar to those the Israelis witnessed in Gaza or those from the Islamic State (i.e., human shields, overt manipulation of the media, and murder of civilians)? It is safe to assume that we will. More than two decades of war in and around the Muslim world have shown us that there are no boundaries, morals, or international standards of conduct inhibiting our enemies.

Manipulating international media by shamelessly using the atrocity threshold is a simple and easy method of influencing Western political power. Strategists should recognize it for what it is: that America is particularly susceptible, especially when we face no clear-cut state actor posing a well-defined or existential threat. ISIS has demonstrated an aptitude for highly stylized propaganda, the unabashed ability to murder people on film, and an affinity for attracting the world's most deranged psychopaths to join their ranks by the tens of thousands. When enemies fail to hold human life as dear as we do in Western democracies, we can expect disinformation, propaganda, and more deliberate and pervasive use of cyberspace as clear weapons of war. Therefore, sensitivity to collateral damage will hinder the use of airpower and may put leaders in a position where dramatically handcuffed airpower is insufficient to be decisive.

In Allied Force, we saw that Milošević learned from watching a decade of aerial occupation in Iraq. He knew that Saddam hunkered down and survived enforcement of the no-fly zones and that his war-fighting capability was only minimally affected by selected American air strikes. Ultimately, airpower weakened Milošević's grip on power and won the day, but other adversaries learned that tunneling and waiting for the media to grind allied operations to a halt by sapping the American and Western world's will are viable tactics. In Afghanistan, Iraq, and Gaza, potential adversaries demonstrated a keen learning curve, using Goebbels-like propaganda

techniques to reach millions—those whom America’s enemies can depend on to follow well-established prejudices without debate—via a multitude of modern communications venues.

Stories or rumors of the air operations over Afghanistan killing civilians—or, at least, “reportedly” civilians—led to restrictions on the use of airpower. The trend is clearly to demand more precision with less collateral damage. Yet, in Afghanistan, in Gaza, and today in Iraq and Syria, even very good intelligence cannot guarantee safety for civilians collocated with weapons or enemy troops. In fact, distinguishing civilians from enemy combatants can prove impossible—our enemies dress as civilians on purpose, regardless of international laws of warfare.<sup>33</sup> Their goal is to disappear, melting into the civilian populace and remorselessly using them as camouflage and human shields. Therefore, our enemies clearly use our own atrocity threshold against us.

Terrorists are not the only adversaries we face today. In the Ukrainian-Russian crisis, we see poor man’s airpower in the hands of the Russian-backed separatist rebels. Supplied by their sponsor with anti-aircraft artillery and missiles, the rebels have little need of complex aircraft. The downing of Malaysia Airlines Flight 17, which killed 298 persons, was likely the result of a type of SA-11 surface-to-air missile battery supplied by Russia, perhaps even manned by Russians.<sup>34</sup> Fear of conflict with a freshly jingoistic Russia has left the European Union and United States mostly flatfooted. The Ukrainian rebels have destroyed several Ukrainian military aircraft, yet destruction of the civilian Malaysian flight finally approached the European atrocity threshold—at least to the point that the European Union was willing to support American-led economic sanctions against Russia. However, like the Syrian civil war, the Ukrainian war—even after the loss of Flight 17—has not proven sufficiently provocative for the United States to do more than supply nonweapon material support.

## Strategic Planning Recommendations

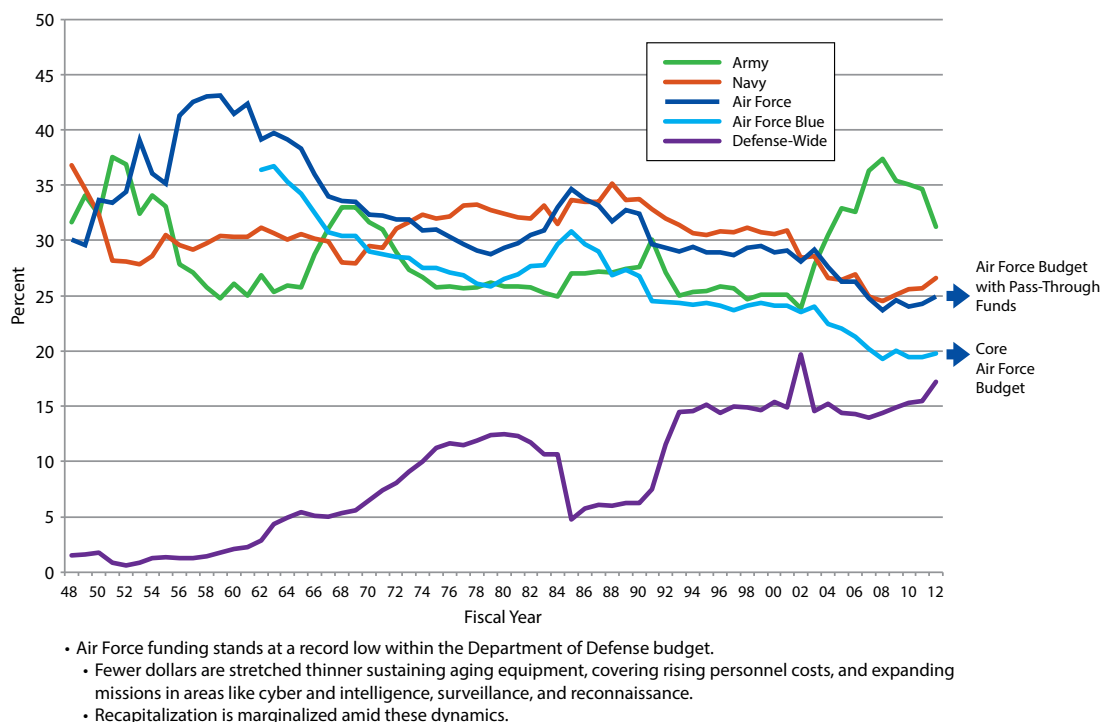
Keeping in mind this discussion of history, modern factors such as the media, sensitivity to collateral damage, a 24-hour news cycle, the poor man’s air force, and the atrocity threshold, we need to consider some elements more carefully as we craft future war-fighting strategies. These should include the end state, achievable effects, technology, operational intelligence, precision, and communication.

If we intend to employ the military instrument of power, we should know why and to what ends. If we do not define the perfect future we hope to create, then only luck alone will get us there. According to Joint Publication 5-0, *Joint Operation Planning*, “Joint planning is end state oriented.”<sup>35</sup> That publication also presents a relatively simple diagram for operational planning that starts with “where we are” and ends with “where do we want to go?”<sup>36</sup> If we cannot answer these two simple questions, then we are destined to fail in any employment of any instrument of power, especially the most unforgiving one—the military instrument.

If we know that we want to end a crisis and do so with minimal loss of life and minimal investment of national treasure, then we understand that leaders will migrate

to the means of airpower. The history of modern airpower has proven this tendency. We must select our desired effects with care. We must be able to produce them with the tools permitted—namely, nonnuclear, precision airpower assets and perhaps a smattering of special forces or coalition operations with native forces. If airpower is insufficient to create the desired effects, then another tool may be a better choice.

Technology plays a key role, but it is becoming an ever-slimmer American asymmetric advantage. US technology offers a significant advantage, yet some of the aircraft used by our allies in the coalition against the Islamic State are newer than our regular Air Force and Navy platforms. Only about one-fifth of the Department of Defense's budget goes to the nation's full-time Air Force, down from one-third, and some goes to other services' parochial air forces. This ratio has been declining since the ground-centric second phases of US operations in Iraq and Afghanistan (see the figure below).



**Figure. Realities of the Air Force Blue Budget.** (Adapted from Douglas Birkley, "Realities of the AF Blue Budget," unpublished Air Staff chart, 9 September 2014.)

As leaders tend to turn to airpower first, we must ensure that we do not follow Germany's World War II production model. The Germans had good technology, but even with slave labor, there was simply not enough of it to compete with a higher-

production peer competitor. If we are forced to fight an enemy such as China or North Korea, even if an F-22 can kill eight planes on a perfect day, when the enemy launches 1,000 Vietnam-era MiGs, some will undoubtedly get through and either damage or kill overwhelmed defenders. We need the best technology, but we also need mass—more than a handful of silver bullets.

Intelligence has proven itself an operational capability. General Deptula and subsequent Air Staff deputy chiefs of staff for intelligence, surveillance, and reconnaissance made great strides in operationalizing intelligence. The most precise weapons in the world are only marginally useful without good coordinates. Data links and automated decision tools are important components of time-critical target prosecution. As we move to the Combat Cloud and as shooters become sensors themselves—a capability we have been moving toward since aircraft served as intelligence-collection vehicles in World War I—contemporary intelligence becomes an integral part of real-time operations.<sup>37</sup> We will never remove the fog of war—if properly invested, we will be able to see through it more clearly, and we have to be ready to share that information as fast and as accurately as possible.

Precision has a plethora of meanings to modern war fighters: precision in employment of the military instrument, in information, in technology, in planning, in timing, in communication, in messages, in location, in stealth, in targeting, in weapons employment, in weapons effects, and in execution. We also need precision to win the peace after the war. We must invest in precision in multiple domains and focus the precise and most useful information to enable the highest likelihood of success and minimize risk as much as practical.

Events from the time of Douhet, Mitchell, and the Air Corps Tactical School through Operations Enduring and Iraqi Freedom have demonstrated that an open, articulate information or media campaign before, during, and after the use of airpower is important to success. In Iraq, Afghanistan, and Gaza, we have seen adversaries use the media to proliferate examples of collateral damage, to beat the drum for extremist followers, or to deceive or appeal to media viewers. The leaders of Western democracy cannot afford to manipulate media to spread propaganda. To combat the adversary's awareness of the public's appetite for gruesome propaganda, smart administrative and military leaders need to think far beyond mere public affairs releases. We must execute with planning, precision, and persistence a tailored, open, and honest communication plan, clearly and professionally delivered simultaneously with our use of the military instrument.

## Conclusion

A century after Douhet and Mitchell, we see airpower as the Western world's chief means of using the national military instrument of power with relatively low risk and cost. The enemies we are likely to face beyond the second decade of the new millennium have proven themselves just as evil as the villains America fought in the nineteenth century—remorseless and immoral. They have influenced how we use airpower and how we must use it in the future. Regardless of the face of the adversary, we can expect him to appeal to the prurient masses with the basest,

most barbaric use of media to advertise and recruit followers and resources—which they will undoubtedly receive. Manipulation of the atrocity threshold as a source or measure of national will is a modern reality that affects any strategy we elect to employ.

We cannot stop evolving airpower theory or strategies for employment. Can airpower adapt to low-intensity or low-interest conflicts that will likely characterize the next decades? Indeed, it can. Although airpower, with today's best precision weapons, is a tremendous means of exerting the national will, it cannot make up for an indecisive or feckless national strategy.

## Notes

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